

Appendix D

Health Risk Assessment

As a result of the combustion of natural gas at the proposed Gas Turbines and HRSGs, the proposed Potrero PP Unit 7 will emit the toxic air contaminants summarized in Table 2, "Maximum Facility Toxic Air Contaminant (TAC) Emissions". In accordance with the requirements of CEQA, the BAAQMD Risk Management Policy, and CAPCOA guidelines, the impact on public health due to the emission of these compounds was assessed utilizing the air pollutant dispersion model ISCST3 and the multi-pathway cancer risk and hazard index model ACE.

The public health impact of the carcinogenic compound emissions is quantified through the increased carcinogenic risk to the maximally exposed individual (MEI) over a 70-year exposure period. A multi-pathway risk assessment was conducted that included both inhalation and noninhalation pathways of exposure, including the mother's milk pathway. Pursuant to the BAAQMD Risk Management Policy, a project which results in an increased cancer risk to the MEI of less than one in one million over a 70 year exposure period is considered to be not significant and is therefore acceptable.

The public health impact of the noncarcinogenic compound emissions is quantified through the chronic hazard index, which is the ratio of the expected concentration of a compound to the acceptable concentration of the compound. When more than one toxic compound is emitted, the hazard indices of the compounds are summed to give the total hazard index. The acute hazard index quantifies the magnitude of the adverse health affects caused by a brief (no more than 24 hours) exposure to a chemical or group of chemicals. The chronic hazard index quantifies the magnitude of the adverse health affects from prolonged exposure to a chemical caused by the accumulation of the chemical in the human body. The worst-case assumption is made that the exposure occurs over a one-year period. Per the BAAQMD Toxic Risk Management Policy, a project with a total hazard index of 1.0 or less is considered to be not significant and the resulting impact on public health is deemed acceptable.

The results of the health risk assessment performed by the applicant and reviewed by the District Toxics Evaluation Section staff are summarized in **Table D-1**.

Table D-1
Health Risk Assessment Results

Source	Multi-pathway Carcinogenic Risk (risk in one million)	Non-carcinogenic Chronic Hazard Index	Non-carcinogenic Acute Hazard Index ^a
Gas Turbines and HRSGs	0.7	0.1	0.4

^aincluded for informational purposes only; the BAAQMD TRMP does not require an assessment the impact due to short-term (< 24 hour) exposure to non-carcinogenic toxic air contaminants

In accordance with the BAAQMD Toxic Risk Management Policy (TRMP), the increased carcinogenic risk and chronic hazard index attributed to this project are each considered to be not significant since they are each less than 1.0. The BAAQMD TRMP does not require an assessment the impact due to short-term (< 24 hour) exposure to non-carcinogenic toxic air contaminants, which is expressed as the acute hazard index.

Based upon the results given in Table D-1, the Potrero PP Unit 7 project is deemed to be in compliance with the BAAQMD Toxic Risk Management Policy.